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## The Preferences and Investment Behaviour of Small Investors in the Hong Kong Bank Stock Market

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**Abstract.** This paper investigates the behaviour of small investors in the Hong Kong bank stock market. The objective of this study was to research the factors, investing characteristics, and decision making processes. Informed by behavioural finance, we develop four hypotheses regarding the opinions and investment behaviour of small investors in the Hong Kong bank stock market. These hypotheses are then tested with the data collected from 1,054 small investors via a survey. By doing so, we hope to contribute to the study of behavioural finance in the setting of an Asian financial centre, namely Hong Kong.

**Keywords.** Behavioral finance, Investment behavior, Small investors, Hong Kong.

**JEL.** E22, G02, G10.

### 1. Introduction

In the new millennium, the financial markets have become increasingly volatile. Even in some advanced economies such as Hong Kong, the stock market has experienced wild fluctuations over the past decade. There are lines of reasoning that less-rational behaviour can have significant impacts on stock market. One concerns noise trading. Fischer Black, in his 1986 American Finance Association Presidential Address, put it aptly: People sometimes trade on information in usual way. They are correct in expecting to make profits from these trades. On the other hand, people sometimes trade on noise as if it were information. If they expect to make profits from noise trading, they are incorrect. A small investor (noise trader) uses irrelevant, or inaccurate, information when making investment decisions. The errant price movements caused by noise traders might be expected to be corrected by rational investors. According to Hon (2012), small investors tended to be overconfident and often bought the stock during the buoyant stock market. Also, herd behaviour occurred frequently among the small investors, and they tended to sell their stock during the sharp correction period. However, small investor had no mental accounting during the buoyant stock market in Hong Kong. We hope to extend this paper and focus on Hong Kong bank stock market. Banks provide a broad range of financial services, including retail banking, loans and money transfer. The Hang Seng Index (HSI) in Hong Kong has four sub-indexes which are finance, utilities, properties, and commerce and industry, and there are 50 constituent stocks in the index. The finance sector has 12 constituent stocks including 8 bank stocks in it. They are HSBC, Hang Seng Bank, Bank of East Asia, China Construction Bank, Industrial and Commercial Bank of China, BOC Hong Kong, Bank of Communications and Bank of China. 100% of these banks reported that they used at least one derivative for hedging the risks (Hon, 2013). They

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reduced borrowing cost and protected group's earnings or cash flows. That may be the reason why these banks can stably pay dividends to shareholders. Do the small investors favour to invest in bank stocks? If any, which of the above bank stocks do they invest in most frequently?

Many retail investments are stock market related. Psychological research (Barber & Odean, 2001) has indicated that there are biases in decision making. These biases have implications for the decision as to whether to invest in stock market-related products, the extent of such investment and the nature of these investments, and could cause investors to make poor decisions or financial advisers to give poor advice. One bias, suggested by prospect theory, is the tendency for people to weigh prospective losses around twice as heavily as prospective gains. This is sometimes known as loss aversion. Loss averse savers take fright from declining stock markets. Psychological research (Ferris, et. al., 1988; Sewell, 2010; Epley & Gilovich, 2001) has found a number of other systematic biases that affect investors. These include disposition effect, herd behaviour and anchors. All of these biases interfere with the process of rational decision making. The objective of this study was to research the factors, investing characteristics, and decision making processes that affect Hong Kong small investors who participate in bank stock market. Informed by behavioural finance, which is a new approach to the study of financial market, we develop four hypotheses regarding the opinions and investment behaviour of small investors in the Hong Kong bank stock market. These hypotheses are then tested with the data collected from 1,054 respondents via a survey. The present study attempts to contribute to the study of behavioural finance in the setting of an Asian financial centre, namely Hong Kong.

This paper is organized as follows. Section 2 states the research questions and hypotheses; Section 3 explains the methodology of the present study and the data; Section 4 reports the research findings; and section 5 contains the conclusion.

## 2. Research Questions and Hypotheses

The theories and concepts written on behavioural finance are relatively new. Whether or not they can be applied to the real setting is still controversial. More theoretical development and empirical studies are needed. To explain the change in the behaviour of small investors in Hong Kong bank stock market, we attempt to set four research questions based on behavioural finance and the concepts that discussed in the previous section. The following four questions are to be addressed in the present study. After discussing these questions with some theoretical explanations, we propose the corresponding hypotheses to be tested with empirical data.

1. Is there a correlation between the investment experience of small investors and their average return on investment of Hong Kong bank stock?

People dislike incurring losses much more than they enjoy making gains, and people are willing to gamble in the domain of losses, investors will hold onto stocks that have lost value (relative to the reference point of their purchase) and will be eager to sell stocks that have risen in value. They called this the disposition effect. Sophisticated and experienced small investors show less disposition effect because they have a better understanding of the market, are more aware of such a tendency, and hence likely to correct it. Therefore, less proportion of well-experienced small investors would suffer loss from their bank stocks investment comparing with the less-experienced small investors.

H1: *A significant correlation exists between the investment experience of small investors and their average return on investment of bank stocks.*

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2. Is there a correlation between the reasons given by small investors for making changes in their security holdings and the reason they believed was most important for the decline in the market?

Herding or convergence in behavior, among investor is often proposed as an explanation for large swings in market prices. When small investors have herd behaviour, they are likely to sell their stocks as a result of the decline in the market. Herding affects the reason given by an investor to justify their decision to sell their stocks.

H2: *A significant correlation exists between the reasons given by small investors for making changes in their security holdings today and the reason they believed was most important for the decline in the market.*

3. Is there a correlation between the opinion of small investors on whether the market will recover if there is an economic downturn and their opinion on the market value today?

An anchor indicates that people start with a benchmark value and adjust it in the obvious direction. Small investors often have some reference points or anchors. A small investor who considers the bank stock market to be undervalued today may think that it will recover in the next few years to levels that prevailed during the buoyant stock market. In other words, they are confident and optimistic about the future.

H3: *A significant correlation exists between the opinion of small investors on whether the bank stock market will recover if there is an economic downturn and their opinion on the bank stock market value today.*

4. Is there a correlation between how small investors value the information given in a situation when a decision has to be made and their belief in the probability that stock prices will continue to rise after three days of continuous increase?

According to prospect theory (Tversky & Kahneman, 1974; 1979), small investors will hold on to losing positions in the hope that prices will eventually recover. The theory also predicts they will be risk-averse in gains. In other words, when small investors believe that the Hang Seng Index will increase in value the next day, they will sell their stocks in the buoyant stock market.

H4: *A significant correlation exists between how small investors value the information given in a situation when a decision has to be made and their belief in the probability that the Hang Seng Index will continue to rise after three days of continuous increase.*

### 3. Method and Data

The snowball method was adopted to select target small investors aged 18 or above in Hong Kong. Our students had different channels to contact with their friends, the first respondent referred a friend. The friend also referred a friend, etc. Students were also through their families' networks to contact with their family members' friends and colleagues. This sampling technique is often used in hidden populations which are difficult for us to access. The data for the present study were collected from small investors in Hong Kong through a survey. The objective of this study was to research the factors, investing characteristics, and decision making processes that affect Hong Kong small investors who participate in bank stock market. Since the majority of Hong Kong's population is Chinese, the questionnaire was written in Chinese. After a pilot test on ten respondents, some amendments were made before we finalized the questionnaire. The survey was conducted during the period of September 23, 2013 to October 31, 2013. We conducted three classes of the course 'Introduction to Corporate Finance' in Hong

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Kong Shue Yan University. There were about 40 students to enrol in each class. We distributed 1,150 questionnaires to our students. There were 1,054 selected respondents who completed and returned the questionnaires and this represents a response rate of 92 per cent.

The questionnaire was designed to elicit information about demographics, investment experience and behaviour, and factors affecting financial decision-making of the respondents. The first part of the questionnaire focused on the factors, investing characteristics, and decision making processes that affect Hong Kong small investors who participate in bank stock market. The second part collected respondents' demographic characteristics, including gender, age, education level, employment status, average monthly income, percentage of their average monthly income for stock investment, used the Internet or e-mail either at home or at work in the past six months, worked for a large for-profit company with over 1,000 employees, family size and their favour investments.

**Table 1.** *Demographic characteristics of the respondents and their favour bank stock investments*

Items and responses	No.	% of total
Gender:		
Female	457	43.8
Male	586	56.2
Age group:		
18- 24 years old	298	28.3
25 – 34 years old	254	24.1
35 – 44 years old	190	18.1
45 – 54 years old	212	20.2
55 – 64 years old	77	7.3
over 64 years old	21	2.0
Your education level is:		
Primary school	73	6.9
Secondary school	278	26.4
Post-secondary	286	27.2
University or above	399	37.9
others	17	1.6
Employment status:		
Employee	639	60.9
Self-employed	153	14.6
Retired	62	5.9
Others	196	18.7
Your average monthly income (including salaries, interest, rent and other earnings):		
Below HK\$5,000	175	16.6
HK\$5,000 -HK\$9,999	171	16.2
HK\$10,000 - HK\$14,999	204	19.4
HK\$15,000 - HK\$19,999	224	21.3
HK\$20,000 - HK\$24,999	139	13.2
HK\$25,000 - HK\$29,999	68	6.5
HK\$30,000 - HK\$49,999	56	5.3
HK\$50,000 or above	16	1.5

Items and responses	No.	% of total
How many percentage of your average monthly income for stock investment?		
_____%	368	35.0
I don't know	683	65.0
Have you personally used the Internet or e-mail either at home or at work in the past six months?		
Yes	915	87.3
No	133	12.7
Do you or does someone in your household currently work for a large for-profit company with over 1,000 employees?		

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Respondent does	249	23.7
Other household member does.	342	32.6
No	458	43.7
How many members in your family (includes yourself)?		
1	41	3.9
2	110	10.5
3	338	32.1
4	385	36.6
5 or above	178	16.9
Which of the following sector do you invest most frequency?		
Finance	387	40.6
Utilities	219	23.0
Properties	199	20.9
Commerce & Industry	141	14.8
Others (Please specify) _____	7	0.7
Which of the following bank stock do you invest most frequency? (Choose one alternative)		
HSBC (Stock code: 0005)	258	27.0
Hang Seng Bank (stock code: 0011)	135	14.2
Bank of East Asia (stock code: 0023)	60	6.3
China Construction Bank (stock code: 0939)	143	15.0
Industrial and Commercial Bank of China (stock code: 1398)	99	10.4
BOC Hong Kong (stock code: 2388)	114	11.9
Bank of Communications (stock code: 3328)	43	4.5
Bank of China (stock code: 3988)	87	9.1
Others (Please specify) _____	15	1.6

The profile of the respondents is reported in Table 1. Just under half (43.8%) of the respondents were female and 56.2% were male. The majority of the respondents were under the age of 54 (90.7%) only 9.3% were aged 55 or above. Regarding their education level, 26.4% had secondary school level, 27.2% had post-secondary level, and 37.9% had university or above level. Regarding their employment status, 60.9% of the respondents were employee, 14.6% were self-employed, 5.9% were retired, and 18.7% were classified as “other”, which includes housewives and students. The respondents’ median income was \$14,435.77. 35% of the respondents answered the percentage of their average monthly income for stock investment. About 43.5% of them used 10% or less for it. 87.3% of the respondents used the Internet or e-mail either at home or at work in the past six months. 23.7% of the respondents are working for a large for-profit company with over 1,000 employees. 68.7% of the respondents had 3-4 members in their family. The majority of the respondents (40.6%) favoured to invest in finance sector of the Hang Seng composite Index. HSBC was the most favorite bank stock; the results indicate that 27.0% of the respondents invested in it most frequently. The second frequently invested bank stock was China Construction Bank, with 15.0% of the respondents; the third frequently invested was Hang Seng Bank, with 14.2% of the respondents; the fourth frequently invested was BOC Hong Kong, with 11.9% of the respondents; the fifth frequently invested was Industrial and Commercial Bank of China, with 10.4% of the respondents; the least frequently invested was Bank of Communications only with 4.5% of the respondents. In view of the above demographic profile of the respondents, we believe that they are representative of small investors in Hong Kong bank stock market. To test hypotheses 1-4, we compare individual’s responses to different items in the questionnaire. The relationship of these responses is indicated by Cramer’s V and Chi-square ( $\chi^2$ ) test.

## 4. Results

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The distribution of the respondents' answers to various question items in the questionnaire is showed in Table 2. The items were designed in a way to reflect some important concepts in behavioural finance. The response to one item is supposed to be related to the response to another item, as stated in the hypotheses.

**Table 2:** Responses to various items

Items and responses	No.	% of total
1. How long have you invested in the financial market? (Choose one alternative)		
Never invested	102	9.7
Less than 1 year	241	22.9
1 year to under 3 years	234	22.2
3 years to under 5 years	202	19.2
5 years to under 10 years	141	13.4
10 years or above	134	12.7
2. What is your average return on bank stock investment in the past? (Choose one alternative)		
Loss	100	10.5
Average return less than 10% p.a.	378	39.7
Average return 10% p.a. to under 30% p.a.	307	32.2
Average return 30% p.a. to under 50% p.a.	120	12.6
Average return 50% p.a. to under 100% p.a.	40	4.2
Average return 100% p.a. or more	8	0.8
3. When making bank stock investment decisions today, which of the following factors do you consider most important? (Choose one alternative)		
Information from the bank as a basis for a fundamental analysis.	195	20.4
Recommendations, advice, and forecasts from professional investors.	178	18.7
The overall past performance of the market seen from a historical perspective.	207	21.7
Information from newspapers / TV.	127	13.3
Information from the Internet.	103	10.8
Discussion with personal friends.	60	6.3
Information from colleagues at work.	25	2.6
Own intuition of future performance.	58	6.1
Others (Please specify) _____	1	0.1
4. What do you think was the most important contributing factor to the decline in the bank stock market? (Choose one alternative)		
The news stories in the media.	152	15.9
The forecasts of analysts.	195	20.4
Loss of confidence among investors in the bank stock market.	196	20.5
Decline earnings and profitability of the banks.	240	25.2
Herd behaviour (i.e., small investors following the majority).	165	17.3
Others (Please specify) _____	6	0.6
Items and responses	No.	% of total
5. If there was a significant downturn (e.g. the Hang Seng index had lost one-third of its market value as compared to its peak in the previous year) in the bank stock market today, do you agree that the bank stock market will surely return to its former level in a couple of years or so? (Choose one alternative)		
Strong agree	37	3.9
Somewhat agree	289	30.3
Neutral	438	46.0
Somewhat disagree	167	17.5
Strongly disagree	22	2.3
6. If you look at the bank stock market today, in your opinion, is it: (Choose one alternative)		
Overvalued by _____%	82	8.6
Undervalued by _____%	91	9.5
Valued at a fundamentally correct level	470	49.3
Cannot say	311	32.6
7. Assume the following situation: during the last two years, the stock price of a certain bank has risen 70% and the future for the stock looks bright. How do you value this piece of information? (Choose one alternative)		



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The bank stock is worth buying.	308	32.6
The information is not sufficient for buying the bank stock.	498	52.7
The bank stock is not worth buying.	139	14.7
8. If the Hang Seng Index has <i>increased</i> consecutively over the past three days, what is probability that it will <i>increase</i> in value during tomorrow?		
(Choose one alternative)		
Less than 10%	59	6.2
10% to under 20%	116	12.2
20% to under 30%	165	17.3
30% to under 40%	136	14.3
40% to under 50	144	15.1
50% to under 60%	161	16.9
60% to under 70%	72	7.6
70% to under 80%	54	5.7
80% to under 90%	33	3.5
90% to under 100%	8	0.8
100%	5	0.5

To test Hypothesis 1, we compare the responses to item 1 and item 2, which indicate the correlation between the investment experience and average return on investment. The existence of such a correlation implied that Shefrin and Statman's (1985) disposition effect is correct. As showed in Table 3, The Cramer's V value is 0.091, and the correlation is significant at 0.05 level. Given this finding, Hypothesis 1 is supported.

**Table 3:** Statistical results

Hypotheses	Cramer's V Value	Approx. Significance
Hypothesis 1 (correlation of responses to item 1 and 2)	0.091	0.033
Hypothesis 2 (correlation of responses to item 3 and 4)	0.231	0.000
Hypothesis 3 (correlation of responses to item 5 and 6)	0.103	0.003
Hypothesis 4 (correlation of responses to item 7 and 8)	0.187	0.000

Hypothesis 2 is tested by comparing the responses to item 3 and item 4. It is a more wide-ranging query concerning the composition and characteristics of bank stock investments and is based on a theory of herd behaviour as a cause of both overvaluation and decline of the market. If a small investor believed that the forecasts by analysts were important to the downturn, that investor would plausibly focus on analysts' forecasts today in order to be well-informed about important news stories that may affect his or her bank stock holdings. The Cramer's V value for the two is 0.231, which is significant at 0.01 level. In other words, Hypothesis 2 is also supported.

Hypothesis 3 is tested by comparing the respondents' answers to item 5 and item 6. The comparison was used to determine whether there was a correlation between confidence and optimism on one hand, and anchoring on the other hand. A small investor who considers the bank stock market to be undervalued today is likely to believe that the bank stock market will recover in a few years to levels that prevailed during the buoyant stock market. This belief is expected to be related to his or her opinion regarding the bank stock market value today. The Cramer's V value is 0.103, and the correlation is significant at 0.01 level. Hypothesis 3 is supported.

The next hypothesis, Hypothesis 4, is tested by comparing the responses to item 7 and item 8. It specifies the correlation between how much small investors value the information they have in a situation when a decision has to be made and their

belief that the stock price index will continue to rise after three days of continuous increases. The existence of such a relationship implies that Kahneman and Tversky's classic value function (i.e. prospect theory) is correct. The Cramer's V value for the two is 0.187, which is significant at 0.01 level. In other words, there is a significant correlation between the responses to item 7 and item 8. Thus, Hypothesis 4 is supported.

### 5. Conclusion

The objective of this study was to research the factors, investing characteristics, and decision making processes that affect Hong Kong small investors who participate in bank stock market. Based on some key concepts in behavioural finance (e.g. disposition effect, herd behaviour, anchors and prospect theory), we developed four hypotheses and test with a data set collected from 1,054 small investors in Hong Kong. Several findings came out from the study.

First of all, we find a significant correlation between the investment experience of small investors and their average return of their bank stock investments. Small investors are sophisticated and have more trading experience to have a lower disposition effect because they have a better understanding of the market, are more aware of such a tendency, and hence likely to correct it. Therefore, less proportion of well-experienced small investors would suffer loss from their bank stock investments comparing with the less-experienced small investors.

Second, a significant correlation is found between the reason given by small investors for changing their current security holdings and the reason given for the sharp correction in the bank stock market. This finding suggests that herd behaviour occurred frequently among the small investors, and they tend to sell their stock during the sharp correction period.

Third, we find a significant correlation between the opinion of small investors on whether the bank stock market would recover in the event of an economic downturn and the opinion of smaller investors on the bank stock market value today. This finding suggests that small investors have some reference points (i.e., anchors) in mind when they make their investments in the bank stock market. For example, a small investor who believes the bank stock market is undervalued today may plausibly think that the bank stock market will recover in a few years to levels that prevailed during the buoyant stock market.

Finally, here is also a significant correlation between how small investors value information in a situation when they have to make a decision and their belief in the probability that the stock price index would continue to rise after three days of continuous increase. This finding provides empirical support for Kahneman and Tversky's classic value function (i.e., prospect theory). Small investors tend to hold on to a position of loss in the hope that the stock prices will eventually recover. Prospect theory also predicts that small investors will be risk averse to gains, which means that they believe the stock price index will continue to increase in value, and hence they will sell their stock in a buoyant stock market.

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